Theories of Emotion

Which Comes First – Running Away or Feeling Like a Chicken?

On January 15, 2009, US Airways Flight 1549 took off from New York's Laguardia airport. Directly after becoming airborne, the plane encountered a "bird strike," disabling both engines. Losing altitude fast, Captain Chesley "Sully" Sullenberger III made the snap decision to land in the frigid Hudson river. Then, with four brief words, he alerted his passengers: "Brace yourself for impact."

Bodies tensed. Teeth clamped. Fists clenched. Hearts raced. Passengers assumed the crash position. Some cried. Some texted loved ones. And one emotion – fear – filled their hearts and minds.

When psychologists talk about emotion, they usually invoke three elements, all present at that moment on Flight 1549: 1) bodily sensation (muscular tension, racing heart, etc.), 2) physical action (assuming crash position, crying, etc.), and 3) conscious awareness (of death, of fear, of panic, etc.). Yet the big question among psychologists is in which order these elements occur when you "feel something." Differing responses to this question form the three main theories of emotion.

James-Lange Theory

I Act; Therefore, I Feel

To William James, the common wisdom of his time – that we feel something and then we act on it (awareness first, followed by sensation and action) – was backwards. Instead, James asserted that we act in response to an experience, we encounter certain sensations during that action, and these sensations then cause us to feel an emotion. Or, as he himself put it: "We feel sorry because we cry, angry because we strike, afraid because we tremble" (1890, p. 1066).

Let's look at the passengers on Flight 1549 according to James (and Danish physiologist Carl Lange, whose similar ideas have gained him a coveted spot in the theory's title). When Capt. Sullenberger said, "Brace yourself for impact," they tensed and sweated (sensations), they crouched and cried (actions), and then, as a direct result, they "felt fear" (awareness). And who can blame them?

Now, before you call James and Lange fools because "everyone knows" that emotions lead to actions and not the other way around, consider the facial feedback hypothesis. Various researchers have done studies that look at how our facial expressions send feedback to our brains that then assess our emotions. In one such study (Strack, Martin & Stepper, 1988), one group of subjects held a pen in their teeth (thus activating the "smile" muscles) and another group of subjects held a pen in their pursed lips (thus activating the "frown" muscles). Then, both groups were shown some cartoons. And guess what? The

"smilers" rated the cartoons as funnier than the "puckerers." Sensation and action led to awareness.

The Cannon-Bard Theory

Same Reaction, Different Stimuli

The counter-intuitive nature of James's theory rankled a lot of psychologists. One of these, Walter B. Cannon, challenged James by pointing out that our physiological reactions to events don't always occur immediately, yet our emotions usually do. For instance, when the passengers heard "Brace yourself for impact," it might have taken a few seconds for their hearts to start to race or the sweat to form on their brows or their crash positions to be fully implemented, but chances are they "felt fear" right away.

Cannon also pointed out that we often have similar sensations and actions in response to different experiences, yet these similar sensations and actions bring about different emotions depending on the experience. For instance, imagine you're in a bumper car, and as your friend races toward you for a major head-on collision, he shouts "Brace yourself for impact!" Your muscles might tense up, your fists clench, and your heart race, but chances are you'll feel excitement (followed by the thirst for revenge!), not fear.

But Cannon did a lot more than just talk. In one experiment, he took some animals and severed the nerves that send signals from the body to the brain. Now, according to James-Lange, without a body to tell the brain that it is having sensations and taking action, animals should not show emotional responses. Yet they did. Point for Cannon. And in studies that looked at people who'd suffered spinal injuries that cut their bodily sensations off from the brain's awareness, plenty of emotion was found. Two points for Cannon.

The Schachter-Singer Theory

The Best of Both Psychologists

So, we have James-Lange saying that actions and sensations cause emotions, and Cannon-Bard saying emotions cause sensations and actions. Can't we all just get along?

It seems we can (at least in theory). Enter Richard Lazarus and Stanley Schachter, who set out to show that the intensity of sensations and actions tell us how strongly we are feeling something, but it's our interpretation of the situation that gives us the awareness of the emotion. For instance, imagine you've just gone on a great date with a guy you're really into. He drives you home, walks you to your door, and as he comes in for the kiss, he says "Brace yourself for impact." Your body might tense up, your heart race, and your palms sweat, but what you feel in response to this situation will depend on whether you find the situation arousing or embarrassing!

In the early 1960's, Schachter and Singer did some studies to back up their "cognitive-affective theory" of emotion. Groups of college students were injected with epinephrine, a drug that causes palpitations, flushing, tremors, and sweaty palms. Some were told to expect these side effects, while others were not. All the subjects were then sent to a waiting room. There, an accomplice of the experimenters acted angry around some groups, happy around others. When the subjects were asked to report on what they were feeling during this accomplice's theatricals, the answers varied. The subjects who had been warned of the side effects simply reported the side effects, barely mentioning emotion. Yet those who had not been warned about the side effects largely mimicked the accomplice's emotions. When the accomplice was acting angry, they reported feeling angry, while a happy accomplice generated happy subjects, showing emotions can be contagious.

Round-Up

An Emotional Ending

You can imagine how Sully's passengers felt when they climbed out of Flight 1549 alive. Or can you? If you're James and Lange, you can imagine their distress as a result of their numb bodies fleeing a wreck. If you're Cannon and Bard, you can imagine their joy at being alive despite their physical trauma. If you're Schachter and Singer, you can imagine each passenger feeling something different depending on his/her interpretation of the situation. But there's one thing we can all be certain of: whatever they were feeling, it was intense (and very cold!)